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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/567,011 | 02/01/2006 | Hirokazu Takashima | 36856.1413 | 9487 |
| 54066 | 7590 | 05/04/2007 | | |
| MURATA MANUFACTURING COMPANY, LTD. C/O KEATING & BENNETT, LLP 8180 GREENSBORO DRIVE SUITE 850 MCLEAN, VA 22102 | | | EXAMINER | |
| | | | THOMAS, ERIC W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2831 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 05/04/2007 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/567,011 | TAKASHIMA ET AL. | |
| | Examiner | Art Unit | |
| | Eric Thomas | 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 February 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 10-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 20-22 is/are allowed.
- 6) Claim(s) 1-14 and 16-19 is/are rejected.
- 7) Claim(s) 15 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 February 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>2/06</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION***Specification***

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

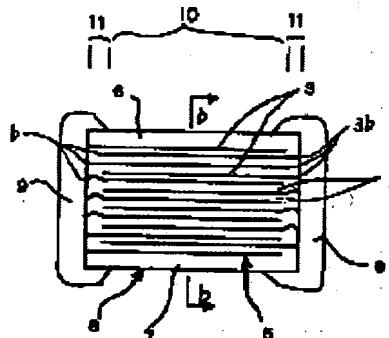
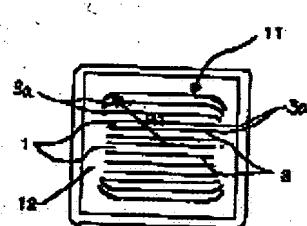
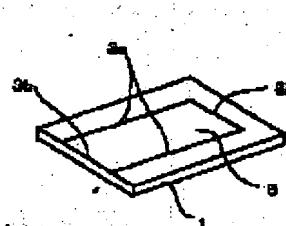
Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2001-155959 ('959).

[图9]**[图10]****[图11]**

'959 discloses in fig. 9-12, a multilayer ceramic capacitor comprising:

a main body having first and second main surfaces and four side surfaces connecting the first and second main surfaces to each other, a plurality of dielectric layers (1), at least one pair of first and second internal electrodes (3) between the dielectric layers and opposed to each other so as to generate an electrostatic capacitance; and first and second external terminal electrodes (9) arranged on an external surface of the main body so as to be electrically connected to the first and second internal electrodes, respectively; wherein

each of the first and second internal electrodes has a capacitance generating portion arranged to generate the electrostatic capacitance, a terminal connecting portion connected to the external terminal electrode (portion close to the external electrode), and an extended portion connecting the capacitance generating portion to the terminal connecting portion; and

the extended portion of at least one of the internal electrodes is curved in the direction of its thickness (see fig. 9).

Regarding claim 16, '959 discloses at least one pair of the internal electrodes is adjacent the first main surface of the main body, the first main surface opposing a mounting surface for the multilayer capacitor.

Regarding claim 17, '959 discloses all the first and second external terminal are adjacent to the first main surface.

Regarding claim 18, '959 discloses another pair of the first and second internal electrode adjacent the second main surface of the main body.

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3. Claims 10, 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahiko et al. (US 2003/0011963).

Ahiko et al. disclose in fig. 9-10, paragraphs 4-5, a multilayer ceramic capacitor comprising:

a main body having first and second main surfaces and four side surfaces connecting the first and second main surfaces to each other, a plurality of dielectric layers, at least one pair of first and second internal electrodes (1) between the dielectric layers and opposed to each other so as to generate an electrostatic capacitance; and first and second external terminal electrodes (not shown) arranged on an external surface of the main body so as to be electrically connected to the first and second internal electrodes, respectively; wherein

each of the first and second internal electrodes has a capacitance generating portion arranged to generate the electrostatic capacitance, a terminal connecting portion connected to the external terminal electrode, and an extended portion connecting the capacitance generating portion to the terminal connecting portion; and

the extended portion of at least one of the internal electrodes is curved in the direction of its thickness (paragraph 5).

Regarding claim 19, Ahiko et al. disclose the first and second external terminal electrodes are alternately arranged along one of the side surfaces of the main body.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-155959 ('959) in view of JP 09-129476 ('476).

Regarding claim 11, '959 discloses the claimed invention except for at least one dummy layer arranged so as to be layered on the terminal connecting portion of the internal electrode.

'476 teaches that forming dummy layers over and under the first and second electrodes (terminal connecting portions) improves the connection between electrodes and external terminals.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the capacitor of '959 using dummy layers as taught by '476, since such a modification would improve the connection between the capacitor element and the external electrodes.

Regarding claim 12, '476 teaches that the at least one dummy electrode includes at least one dummy electrode arranged below the first and second internal electrodes.

Regarding claim 13, '476 teaches that the at least one dummy electrode further includes at least one dummy electrode arranged above the first and second internal electrodes.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-155959 ('959) in view of JP 63-36677 ('677).

'959 discloses the claimed invention except for the extended portion is narrower than the capacitance generating portion.

'677 teaches that decreasing the width of the extended portions of the internal electrode increases the ESR.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the electrodes of '959 so that the extended portions are narrower than the capacitance generating portions, since such a modification would increase the ESR.

Allowable Subject Matter

8. Claims 20-22 are allowed.

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9. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest in combination with the other claimed limitations, a multilayer capacitor wherein the extended portion that is curved in the direction of its thickness is thinner than the capacitance generating portion and the terminal connecting portion (claim 15).

The prior art does not teach or suggest in combination with the other claimed limitations, a method of manufacturing a multilayer capacitor including the step of pressing a portion of the ceramic green sheets (claims 20-22).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 9-232179 – internal electrodes comprising thick tab portions

US 4,942,610 – polymer capacitor structure

GB 2034521 – chip capacitor

US 6,829,134 – laminated ceramic electronic component

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Thomas whose telephone number is 571-272-1985. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:45 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ewt



4-26-07

ERIC W. THOMAS
PRIMARY EXAMINER